equal parts of olive oil and liquid vaseline, and stated that the results he had obtained were better than by any other mode of treatment which he had employed in thirteen years' experience as a teacher.

So far as we know, the use of guaiacol has not been sufficiently general to warrant a final opinion as to its true place in the treatment of tuberculosis; but a remedy which has given such good results in the hands of widely separated clinicians, and which has, to a certain extent, back of it all the good results obtained by the administration of creasote, deserves careful consideration and faithful trial. So much must be conceded in estimating the earnestness with which Schüller urges it upon the attention of the profession. Its value in the management of his surgical cases may be differently appreciated by surgeons who consider the thorough local treatment of his patients; but no one can doubt that his combination of general with local treatment is sensible and worthy of imitation.

Having said so much in regard to the matter of Schüller's book, it is pleasant to be able to add that its literary style is excellent, and that it is as interesting as it is suggestive. C. W. D.

LES FONCTIONS DU CERVEAU: DOCTRINES DE L'ÉCOLE DE STRASBOURG, ET DOCTRINES DE L'ÉCOLE ITALIENNE. Par JULES SOURY, de la Bibliothèque Nationale, etc. Paris, 1891.

THE FUNCTIONS OF THE BRAIN: THE TEACHINGS OF THE STRASBOURG AND THE ITALIAN SCHOOLS. By JULES SOURY, of the National Library.

THE object of this book, written evidently by a layman, is to present the results of experiments upon the brain by some of the foremost physiologists of the day. The author appears to have formed the design of presenting a history of the contemporary physiological psychology which has advanced so conspicuously to the front. This admirable critical history presents a synthesis of the works which have appeared in Europe upon cerebral localization since the discovery of Fritsch and Hitzig in 1870. Most of these works have been analyzed and expounded by M. Soury at the École des Hautes-Études. It is a very notable fact that since 1881, as initiated by M. Paul Bert, then Minister of Public Instruction, the history of the doctrines of the new physiological psychology has had a place in the higher education of France. What an example for some of the educators in our great universities in America, who still follow the methods and reap the fruits of the schoolmen! It is a cause for pride in all medical men that the results of the work now being done in their own profession are beginning to be used by educators and philosophers as the foundation for a new and scientific psychology.

The great opponent of the doctrine of cerebral localization has been Frederick Goltz. M. Soury's critical review, in the first section of his book, of Goltz's method, experiments, and inductions is clear, concise, and impartial. For those especially who prefer a lucid French style to the involved and cumbersome language of the original memoirs, the book is valuable and trustworthy. While not a translation, it is a

statement; and this can suffice to a busy man surrounded by an overteeming literature in four languages. Very hostile to all cerebral localization, without denying its possibility in principle, Goltz has been its most redoubtable and best-armed adversary. This is why M. Soury, as he writes in his conclusion, has chosen Goltz to inaugurate this history. Although he defends himself from being a man of party, Goltz has been the chief of a school. If his interpretations of his own experiments had prevailed, the doctrine of the heterogeneity of the cortical functions, as supported by such men as Fritsch, Hitzig, Ferrier, Munk, Luciani, Exner, and Charcot, would have received, at least for a time, a sensible check. But, says M. Soury, not only have these interpretations not prevailed, but his experiments have furnished against Goltz himself decisive proofs in favor of cerebral localization. So Goltz, it appears, has been forced by his own experiments to concede that the anterior lobes and posterior lobes are functionally heterogeneous, which is practically conceding everything by a man whose physiological reasoning is often involved, and whose experimental method of washing away the cortex with a stream of water is crude and rough in the extreme.

The study of the disorders of general sensation caused by lesions of the cortex has an interest at present even greater than that which attaches to the study of those of motion. In his third chapter on Goltz the author states the position of most experimenters and of many prominent clinicians. It is notable that the consensus of opinion on the Continent is against the position of Ferrier, that sensation is not localized in the motor zone. Thus Fritsch and Hitzig believe that the muscular sense is altered by lesions in this zone; Schiff, that tactile sensibility is plainly abolished; and Munk, that not only the sense of touch, but all other modes of general sensation are lost. But Charcot points out that these alterations are not constant, as has been pointed out unmistakably also by a number of clinicians in America. As sensation is doubtless the foundation of intelligence, its study by the physiologist will have an important place in the new psychology.

M. Soury's examination of the Italian school of Tamburini, Luciani, and Seppilli, is still more minute than that devoted to the Strasbourg professor. Among the conclusions of this school are the following: The diverse functions of the cortex, besides each having its own proper centre, possess a common territory [a sort of common *sensorium* and *motorium* (?)] where the centres "dovetail" and pass insensibly one into the other. It follows that the diverse functions of the brain are so intimately related among themselves that it is impossible to injure one without injuring others. The cortex is the seat of the higher psychical acts—perception, ideation, etc. Parts of the same centre can supply lost parts. The relations of sight, hearing, and smell are bilateral; of the sensory-motor sphere unilateral. The morphological variation in the nerve elements of the cortex does not determine their functions; it is in the anatomical relations, rather than in the form of the cell, that the difference lies. In the different zones of the cortex the two types of cells—sensory and motor—are united and mingled in diverse proportions, consequently the sensory and motor functions, far from being distinct, coincide and have a common anatomical seat. Special functions depend, not upon special differences in the nerve elements, but upon the nature of the sensations from the peripheral organs. Relations between cells and groups of cells, central or peripheral, are not isolated and direct,

but by means of a vast network of fibres—the ultimate ramifications of the axis-cylinders of the two kinds of cells, sensory and motor. Thermic changes occur in all brain activity. Intelligence has its chemical, thermic, and mechanical equivalents.

Many of these conclusions are suggestive, some of them are true, some of them contradict the others, and some are contradicted by experiment and clinical observation. The work of the Italian school is somewhat eclectic, but its value nevertheless is great. A very important synopsis of it is given in M. Soury's book. J. H. L.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By SAMUEL O. L. POTTER, A.M., M.D. (Jefferson), M.R.C.P. (London). Third Edition. Pp. xii., 767. 1891.

A HANDBOOK which has passed to its third edition in less than five years has certainly found its place, and has well filled it. The author's manuals in the "Quiz Compend" series, so popular with the undergraduate student, have made his name a sufficient guarantee that the advanced student and junior practitioner would find in the present volume a faithful companion. It is with this view of the author's purpose that this book has been carefully read.

After a brief introduction we pass to the classification of remedies, which occupies thirty-two pages. Although no classification could be produced which would meet the approval of many, yet this one seems to be well adapted for the purpose for which it was constructed, in that it gives the student a general idea of the prominent effects of the remedies that he is to use. Here we miss many remedies that we find in contemporaneous literature, but none that have been before the profession for a sufficiently long time to be of assured value. We consider this section, placed, as it is, at the commencement of the work, to be worthy of especial study on the part of the student, that he may now group together drugs which possess common qualities, reserving for future study the minor differences and modifications of their use.

Part I., Materia Medica and Therapeutics, fills about three hundred and fifty pages; the subjects being arranged in alphabetical order. It may seem to savor of the dispensatory to find creolin touch elbow with crocus, while cubeba, cuprum, and curare follow in close order, but after the chapter on classification has been mastered it is not a disadvantage. After each drug has been described, its preparations, official (which the author prefers to officinal) and unofficial, with dose appended, are followed by a brief statement of its physiological action. Its antagonists and incompatibles are clearly stated. Then comes a fairly full presentation of the therapeutics. As this work is necessarily a compilation, no claim to originality is made, but the weeding out of unessential details of description will certainly meet the approval of those who use this book. In therapeutics the author has very skilfully steered his course between the pessimism that marks a system of therapeutics based solely on the results given by experiments and observations in the chemical and physiological laboratories, and the optimism of hasty empirical generalizations upon meagre clinical data, and upon this we consider that